Ellington Field safety personnel practice emergency coordination

Last month, the JSC Emergency Response Team was put to the test in response to an emergency call from Ellington Field.

A T-38 jet trainer had attempted to take off but, due to a problem with the right main landing gear wheel which locked up, the aircraft departed the runway, cartwheeled and came to a rest on top of an airport taxiway sign and against an electrical circuit. Hundreds of gallons of jet fuel leaked from the plane before it burst into flames. Both crewmen suffered multiple injuries including second and third degree burns.

Fortunately, this was a drill scenario and not an actual emergency. The Aircraft Operations Division participated with the City of Houston's aircraft mishap simulation exercise in cooperation with an FAA requirement for commercial airports to conduct similar drills periodically.

"It was a valuable lesson in that we are now more prepared to handle a disastrous mishap, but hope that we never have to.'

—Jack Nickel, chief
Aviation Safety Office

"The mishap scenario was developed and written to spark a flurry of activity in a dynamic environment that involved a large number of participants," said John Starnes, JSC's aviation safety officer at Ellington Field.

On-site JSC security responded and assisted until Houston Airport Police were notified and arrived from Hobby Airport.

"The Ellington Field Fire Department played the most important part," Starnes said. "Not only was it their task to extinguish the fire, they also affected the rescue and administered emergency medical services until a NASA doctor arrived at the scene. Additionally, they acted quickly to keep the fuel contained by using booms and pads. The city responded with dump trucks and front end loaders as well to help ensure fuel did not enter any out flow streams. Years ago, containing fuel or any other hazardous material at a mishap scene would have been a very minor concern—if one at all. Not so today—it is a big concern."

One significant problem was found with the early notification process. The Public Affairs Officer who is responsible for managing the public release of on-scene information was not connected to the crash net, the system that notifies personnel of a mishap. This vital link is being corrected.

"In addition, we found out how easy misinformation regarding a mishap could develop." said Judy Rickard of the Aviation Safety Office at Ellington Field. "For example, there was misinformation regarding how many people were actually on board the mishap aircraft, the extent of their injuries, and which victim went to which hospital.

"A lot of distractions from the task at hand were created by a barrage of phone calls from the general public wanting details of the mishap, and pilots wanting to know if they could use the airport or if the mishap had caused the airport to be closed," Rickard said.

Knowing the aircraft must be removed quickly, Starnes began work long before the aircraft was released by the fire chief to JSC. A crane was called and had to be given specific information such as weight of the aircraft and the type of surface it would be lifted from.

"The more you tell people who are responding what they are rolling into—the better they can do," Starnes said.

Photographs were taken of everything—all angles of the aircraft, victims, debree scatter pattern—everything visible, to be used by the mishap board. Maintenance and quality assurance personnel were consulted to ensure no further damage was caused. The aircraft logs and records were immediately impounded for the investigation. The aircraft was put under security watch while records and forms would be poured over to see if previous problems with the aircraft had been noted or reported.

Participating in the drill with the City of Houston provided the Safety Office an opportunity to go through their aircraft mishap plan, finding areas that needed attention and which were on target in the case of a real disaster. The simulation covered all aspects of a true mishap, from notification to forming a mishap board.

Jack Nickel, chief of the Aviation Safety Office, observed the exercise from the Airtraffic Control Tower. "The drill helped us identify problem areas, causing us to make changes where needed," Nickel said.

In evaluation meetings with the City of Houston and HPD, other areas of improvement were identified. "It was a valuable lesson in that we are now more prepared to handle a disastrous mishap, but hope that we never have to," Nickel concluded.

JSC Photos by Benny Benavides

Above: Ellington Field firefighters check out victims during a T-38 mishap drill. Below: Joe Gerky, an aircraft equipment specialist in the Aircraft Maintenance and Engineering Branch checks on T-38 victim, Terry Lampkins a quality assurance technician at Ellington Field. Victims were told to simulate injuries to be able to better analyze emergency operations. The Aircraft Operations Division participated in a City of Houston's aircraft mishap simulation exercise last month. Emergency personnel from Ellington Field Fire Department, Houston Police, City of Houston Department of Aviation and JSC were able to critique their skills and cooperative efforts in case of an actual emergency.

Hazard chemical awareness helps ensure safety

By Jody Licatino

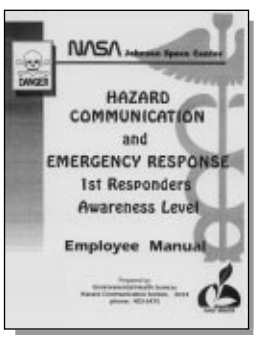
A large number of the buildings at JSC house laboratories and offices together and JSC safety officials are urging all employees to learn about the possible dangers of hazardous chemicals in their work areas.

"Of the many health and safety concerns facing the JSC work-force, chemical hazards are by far the most pervasive," said Steve Hulka, senior industrial hygienist for Kelsey-Seybold. "Experience has shown that an employee who is better versed on the hazards of a chemical is more likely to be protected."

The hazard communication rule, known as HazCom "Right to Know," became effective on May 25, 1986, and requires employers to develop, implement and evaluate a written comprehensive hazard communication program. JSC has a program in place that requires employees to take a Hazard Communication/ First Responder Awareness Level Training course.

The course is designed to inform employees of the hazardous chemicals that they may come in contact with and to provide them with as much information as needed to do their jobs safely.

Four key elements in the JSC HazCom program are: labeling, material safety data sheets, the hazardous materials inventory, and employee training.



Other measures to ensure hazard chemical safety include labeling of hazardous material containers. These labels include the name of the hazardous material, hazard warnings and the name of the manufacturer or supplier. Temporary use containers are also labeled.

To ensure employees' safety, supervisors are responsible for maintaining copies of Material Safety Data Sheets for each hazardous chemical used by their employees. All chemicals coming on site must be accompanied by a data sheet.

New data sheets are submitted to the Hazard Communication Office of Environmental Health Services which is the central repository. New data sheets are assigned a number and a copy is returned to the initiator. Employees or supervisors may obtain data sheets by calling Margaret Mundine at x37512 or submitting a written request to Mundine at Mail Code SD23.

The HazCom standard also requires that JSC conduct an annual inventory of all hazardous materials used on site. Each area where hazardous materials are used maintains an up-to-date inventory of these materials.

"It is important to remember that some office items such as toner cartridges are considered hazardous materials and should be reported on this inventory," Hulka said.

Environmental Health Services coordinates an annual site-wide hazardous materials inventory and distributes copies of this report to all affected organizations.

Employees who would like to take the Hazard Communication/First Responder Awareness Level Training Class can call the Hazard Communication Department of Environmental Health Services at x37424 to register for the class.

This course is approximately one hour in length and is offered twice a month.

JSC Photo by Mark Sowa

City of Houston firefighters search for victims of a simulated explosion in Bldg. 32. To practice preparedness measures, the Crew and Thermal Systems Division's Systems Test Branch, simulated the explosion in Bldg. 32 just last month. The scenario simulated an oxygen manifold explosion and fire in vacuum Chamber B with 10 victims suffering varying degrees of injuries. The exercise required cooperation from Houston Fire Department, the JSC Clinic, Manned Test Medical Support, the Environmental Health Office, JSC Security and Emergency Preparedness.

Drill exercise keeps employees aware

Oxygen explosion simulation critiques facility managers

Just last month, to practice preparedness measures, the Crew and Thermal Systems Division's Systems Test Branch simulated an explosion in Bldg. 32 where large chambers are used for thermal vacuum testing.

The drill scenario simulated an oxygen manifold explosion and fire in vacuum Chamber B with 10 victims suffering varying degrees of injuries. It required cooperation from Houston Fire Department, the JSC Clinic, Manned Test Medical Support, the Environmental Health Office, JSC Security, and Emergency Preparedness.

"These drills ensure that we are prepared to effectively respond to emergencies," said Executive Safety Committee Chairman Jim Wetherbee. "Appropriate training will help make JSC a safer place to work."

Martin said that after the fire alarm sounded, the building was emptied in approximately five minutes and the "injured" were found and removed in approximately 20 minutes. Because of simulated smoke, it was necessary to abort the control room 90 seconds after the explosion. A remote manual repressurization of the chamber was successfully completed.

The safety manual requires this area to prepare for emergencies, but it is the division's choice to perform drills every 90 days.

"We are trying to practice an annual drill such as the one last month which involves site-wide personnel," Martin said. "With this drill in particular, we wanted to go beyond our test area and allow JSC emergency personnel to be a part of that exercise."

The drill provided exercise practice for coordinating actions between HPD and JSC, as well as evacuation training for building personnel and verification practice for fire wardens and facility managers. Each area is reviewing the lessons learned and refining their procedures. These lessons learned will be distributed to all JSC Facility Managers in the near future.

The Crew and Thermal Systems Division was commended by the Executive Safety Committee for its initiative and dedication to providing a safer workplace for their employees.

"It was a wonderful drill and we had excellent participation by the emergency response teams," said Steve Martin, test director of the Manned Vacuum Chamber Test. "They deserve a pat on the back."